
Typification of Two Linnaean Species Names of the Genus *Thlaspi* (Brassicaceae)

Karol Marhold

Institute of Botany, Slovak Academy of Sciences, Dúbravská cesta 14, SK-842 23 Bratislava,
Slovak Republic

Pavol Mártonfi

Department of Experimental Botany & Genetics, Faculty of Science, P. J. Šafárik University,
Mánesova 23, SK-041 54 Košice, Slovak Republic

ABSTRACT. Lectotypification of the name *Thlaspi alliaceum* L., with a Bauhin illustration from *Historia plantarum*, and *T. montanum* L., with a specimen from the LINN herbarium, is presented.

Key words: Brassicaceae, lectotypification, Slovakia, *Thlaspi*.

During the writing of the account of the genus *Thlaspi* for the *Flora of Slovakia* [*Flóra Slovenska*] by the second author, it became apparent that the following two Linnaean names require lectotypification in order to fix their application:

***Thlaspi alliaceum* L.,** Sp. Pl.: 646, 1753. TYPE: Bauhin, J., J. H. Cherler & D. Chabrey, Hist. Pl. 2: 932 (“SCORODOTHLASPI ULYSSIS / Aldroandi”), 1651 (lectotype, selected here).

The diagnostic phrase-name is referred directly to van Royen’s *Florae Leydensis Prodrum* (1740). There is, however, no extant, associated van Royen specimen at Leiden (L), and no relevant extant material has been traced in any of the Linnaean herbaria. There are two illustrations cited in the protologue that comprise the original material: the first is in Bauhin et al. (1651) and the second in Morison (1680). A more detailed study of Morison’s illustration entitled “28. *Thlaspi Allium redolens nobis / Scorodothlaspi Ulißis Aldroandi / I. B.*” [“/” indicates here and in other cases a separate line], with “I.B.” clearly referring to J. Bauhin, reveals that the illustration is redrawn from Bauhin et al. (1651: 932). The accompanying morphological description in Morison (1680: 297) repeats word by word the description by Bauhin et al. (1651: 932–933).

The illustration in Bauhin et al. (1651: 932 “SCORODOTHLASPI ULYSSIS / Aldroandi”, Fig. 1) corresponds well to the present concept of *T. alliaceum* (e.g., Clapham & Akeroyd, 1993: 385).

Lower cauline leaves are obovate, petiolate, obtusely dentate; upper ones are lanceolate-ovate. Flowers as depicted are small, and anthers are shorter than the petals. Siliculae are narrowly obovate, with narrow wings, convex beneath, and the style is not visible (this corresponds to style length in this taxon, which is usually 0.3 mm and included within the shallow notch). Fruit pedicels are more or less horizontally spreading, longer than fruits. The pubescence of the basal part of the stem is not shown, but the lack of this character does not influence the taxonomic interpretation of the depicted plant. There is no reference to the distribution area of the depicted plant, only a reference to its origin as “Montbelgardi in horto Ill. C. Wirt . . .” This, however, refers to the plant in cultivation. According to current knowledge, this species occurs in central and southern Europe, from the Iberian Peninsula and France in the west to Bulgaria and European Turkey in the east (see Jalas et al., 1996: 144), which is in agreement with the protologue (Linnaeus, 1753: 646).

The above-mentioned illustration in Morison (1680) is considerably simplified and idealized in comparison with Bauhin’s. Three separately depicted details from the Bauhin plate are missing in the Morison illustration, and unlike the Bauhin figure, which depicts different parts of the inflorescence in the proper ontogenetic stages, the Morison plate erroneously shows all siliquae in the same ontogenetic stage and all flowers in the same stage of flowering. Such stylization of flowers is also apparent in other figures of plants of the family Brassicaceae in Morison’s work. Therefore, we unequivocally prefer the Bauhin illustration as the lectotype.

***Thlaspi montanum* L.,** Sp. Pl.: 647, 1753. TYPE: LINN 825.10 (lectotype, selected here).



Figure 1. Illustration entitled “SCORODOTHLASPI ULYSSIS / Aldroandi” by Bauhin et al. (1651: 932), designated here as a lectotype of the name *Thlaspi alliaceum* (courtesy of The Natural History Museum, London).

The diagnostic phrase-name is Linnaeus's own, and there are four synonyms cited in the protologue. Two of them (by Clusius, 1601: 131, and by Columna, 1606: 275) are cited together with illustrations that should be considered in lectotypification. The Clusius illustration bears the name "Thlaspi montanum II" and is further referred to in the text (Clusius, 1601: 130–131) as "Thlaspi montanum / II. Thlaspi Badense." The distribution is given as "Provenit in declivi montis illius glabri, qui urbi Badensi [Baden, SSW of Vienna] (in qua calidaru aquarum sunt scaturigines) imminet, quarto à Viennâ miliari," which fits the current distribution area of *T. montanum*. The illustration by Columna (1606: 276) bears the name "Thlaspi montan: [sic!] bursae pastoris fructu primum" and is referred to in the accompanying text as "Thlaspi montanum Bursae' pastoris fructu." Linnaeus (1753: 647) referred to the illustration and text as "Thlaspi montanum, bursae pastoris folio," which was corrected in the second edition of *Species Plantarum* (Linnaeus, 1763: 902) to "Thlaspi montanum, bursae pastoris fructu." The provenance is given as "Matesii montis . . . la Vedetta . . ." [we have not been able, however, to identify this location]. Both illustrations correspond well to the present concept of *T. montanum* (e.g., Clapham & Akeroyd, 1993: 387). The plants have a basal rosette of obovate leaves with blades abruptly narrowed to petioles. Stem leaves are on both figures, oblong-ovate, with rounded auriculae on the amplexicaul base. In Clusius's figure one stem is branched, which might occur in this species although it is not a common feature. Inflorescences are semiglobular (illustration by Columna), elongated in fruit (illustration by Clusius). Siliquae on both figures are obovate, broadly winged, with wings rounded at the tip. Styles are evident, exserting the tip of wings. No relevant material associated with the other two synonyms cited in the protologue exists. No Burser specimen associated with Bauhin's *Pinax* (Bauhin, 1623) can be traced, and neither this work nor the work by de Sauvages (1751) contains any relevant plates.

There are two specimens in the Linnaean herbarium (LINN) that bear (or originally bore) the number "8" on the bottom of the sheet, corresponding to the number of *T. montanum* in the first edition of *Species Plantarum* (Linnaeus, 1753: 647). The presence of the relevant *Species Plantarum* number, either with or without the relevant epithet in the hand of Linnaeus, has previously been shown to indicate that the material was in the possession of Linnaeus in 1753 prior to writing the specific accounts. Both of these specimens can therefore be

considered original material eligible for the purpose of lectotypification. The first of these specimens (LINN 825.14) originally had the inscription "8" on the bottom of the sheet, though this was later corrected, most probably by Linnaeus, to "5" (referring to *T. perfoliatum* in the first edition of *Species Plantarum*), and probably even later, an epithet "alpestre" was added. Indeed, the unnamed variety "β" of *T. perfoliatum* from the first edition of *Species Plantarum* (Linnaeus, 1753: 646) was renamed, according to the cited phrase-names, *T. alpestre* L. in the second edition of this work (Linnaeus, 1763: 903). This name is a later homonym of *T. alpestre* Jacquin (Jacquin, 1762: 116, 259–260). In addition the specimen bears the inscription "HU [Horto Upsaleinsi]" below the plant, indicating that the plant was cultivated in the Botanic Garden in Uppsala, and includes comments concerning the morphology of fruits by J. E. Smith, "semina utrinq. plana—incani 3 vel 4 / videtur *montanum* Huds." The plant on the sheet undoubtedly belongs to the *T. caerulescens* group and not to *T. montanum* in its present sense. Pertinent characters include: basal leaves are not abruptly attenuate; stem leaves have obtusely acute auriculae (rounded in *T. montanum*); petals are less than 3 mm long; siliquae are not fully developed, but they are narrowly obovate, widened at the tip, with acute wings (vs. widely obovate with rounded wings in *T. montanum*).

The second specimen (LINN 825.10) bears the inscription "8 montanum" in Linnaeus's hand on the bottom of the sheet, with a note by J. E. Smith, "semina utrinque 2 / 1 ex . . . [illegible] / Jacq. Austr. V. 3 t. 237," referring to Jacquin's illustration of *T. montanum* (Jacquin, 1775: 22, tab. 237), and an inscription in Linnaeus's hand, "Thlaspidium alb. Rupp. Thlaspi mont. album siliqua hastata, acuto globulariae folio Barr. ic. 897," on the reverse of the sheet. The plant on the sheet corresponds well to the present concept of *T. montanum*. It has abruptly narrowed basal leaves, stem leaves are oblong-ovate, flowering stems are not branched, flowers are large, sepals are 2–3 mm long, petals are 5–7 mm long and longer than anthers, and flowers are arranged in a semiglobular inflorescence. The plant was collected before the fruits had become fully developed. This plant, according to our opinion, will best serve as the lectotype and is here designated as such.

Acknowledgments. We thank Steve Cafferty and Charlie Jarvis of the Linnean Plant Name Typification Project for assistance, advice, and for the photo of Bauhin's figure; Gina Douglas, Librarian of the Linnean Society of London, for invaluable

help with the literature; and Grant Agency VEGA, Bratislava (Grant no. 7081), for financial support.

Literature Cited

- Bauhin, C. 1623. *Pinax theatri botanici*, 1st ed. Basel.
- Bauhin, J., J. H. Cherler & D. Chabrey. 1651. *Historia Plantarum Universalis*, Vol. 2. Ebroduni.
- Clapham, A. R. & J. R. Akeroyd. 1993. *Thlaspi*. In T. G. Tutin, N. A. Burges, A. O. Chater, J. R. Edmondson, V. H. Heywood, D. M. Moore, D. H. Valentine, S. M. Walters & D. A. Webb (editors), *Flora Europaea*, 2nd ed. 2: 384–388. Cambridge Univ. Press, Cambridge.
- Clusius, C. 1601. *Rariorum Plantarum Historia*. Antwerpen.
- Columna, F. 1606. *Minus Cognitarum . . . Stirpium*. Romae.
- Jacquín, N. J. 1762. *Enumeratio Stirpium Plerarumque, Quae Sponte Crescent in Agro Vindobonensi*. Vindobonae.
- . 1775. *Florae Austriacae*, Vol. 3. Viennae.
- Jalas, J., J. Suominen & R. Lampinen. 1996. *Atlas florae Europaeae*, Vol. 11. Helsinki.
- Linnaeus, C. 1753. *Species Plantarum*, 1st ed. Holmiae.
- . 1763. *Species Plantarum*, 2nd ed. Vol. 2. Holmiae.
- Morison, R. 1680. *Plantarum Historiae Universalis Oxoniensis*, Vol. 2. Oxonii.
- Royen, A. van. 1740. *Florae Leydensis Prodromus*. Lugduni Batavorum.
- Sauvages, F. B. de. 1751. *Methodus Foliorum seu Plantae Florae Monspeliensis*. 'S Gravenhage.